

$$a_5 = 162, a_2 = 6 \quad a_n$$

$$\begin{cases} a_5 = 162 \\ a_2 = 6 \end{cases}$$

$$: a_1 q \neq 0 \begin{cases} a_1 q^4 = 162 \\ a_1 q = 6 \end{cases}$$

$$q^3 = 27 \rightarrow \boxed{q = 3} \rightarrow \boxed{a_1 = 2}$$

$$a_1 = 2, 3 \quad :$$

$$S_{\text{odd}} = 1640$$

-	
$a_1 = 2$	A_1
$\frac{a_{n+2}}{a_n} = \frac{a_n q^2}{a_n} = q^2 = 9$	Q
n	N

$$S_{\text{odd}} = 1640$$

$$\frac{2(9^n - 1)}{9 - 1} = 1640$$

$$9^n - 1 = 6560$$

$$9^n = 6561$$

$$\boxed{n = 4}$$

$$4 \quad :$$

3 - , - 4

$a_2 = 2 \cdot 3 = 6$	A ₁
$\frac{a_{n+2}}{a_n} = \frac{a_n q^2}{a_n} = q^2 = 9$	Q
3	N

$$S_{\text{even}} = \frac{6 \cdot (9^3 - 1)}{9 - 1} = 546$$

.546 :

$$b_1 = \frac{5}{a_1} = \frac{5}{2} = 2.5, b_2 = \frac{5}{a_2} = \frac{5}{6} \quad b_n \quad (1)$$

$$q_b = \frac{b_2}{b_1} = \frac{\frac{5}{6}}{2.5} = \frac{1}{3}$$

$$\frac{1}{3} \quad b_n \quad :$$

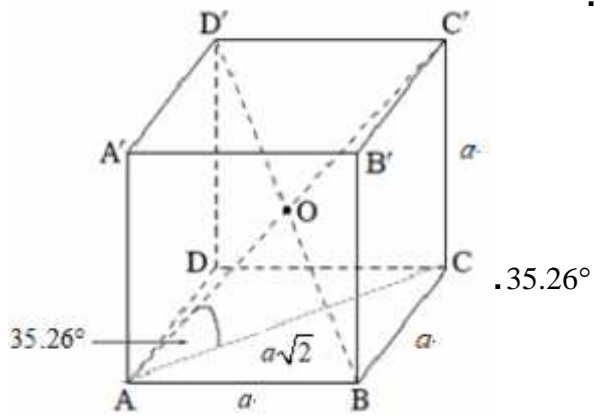
$$S = \frac{b_1}{1 - q_b} \quad , -1 < q < 1 \quad (2)$$

$$S = \frac{b_1}{1 - q_b}$$

$$S = \frac{2.5}{1 - \frac{1}{3}}$$

$$\boxed{S = 3.75}$$

$$.3.75 \quad b_n \quad :$$



• a ,
 • (1)

ΔABC : Pythagoras

$$(AC)^2 = (AB)^2 + (BC)^2$$

$$(AC)^2 = a^2 + a^2$$

$$(AC)^2 = 2a^2$$

$$\boxed{AC = a\sqrt{2}}$$

• $a\sqrt{2}$ AC :

• $\sphericalangle C'AC$ ABCD AC' (2)

• AC , AC'

ΔC'CA : ($\sphericalangle C'CA = 90^\circ$)

$$\tan \sphericalangle C'AC = \frac{CC'}{AC} = \frac{a}{a\sqrt{2}}$$

$$\boxed{\sphericalangle C'AC = 35.26^\circ}$$

• ABCD AC' :

• AC' ,

ΔACC' : Pythagoras

$$(AC')^2 = (AC)^2 + (CC')^2$$

$$(AC')^2 = (a\sqrt{2})^2 + a^2$$

$$(AC')^2 = 2a^2 + a^2 = 3a^2$$

$$\boxed{AC' = a\sqrt{3}}$$

• $a\sqrt{3}$, AC' , :

• ABC'D' ,

$$a\sqrt{2}$$

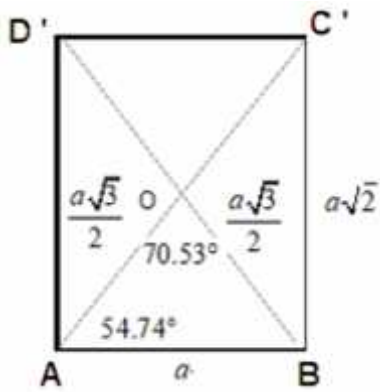
$\Delta ABC'$: ($\sphericalangle ABC' = 90^\circ$)

$$\tan \sphericalangle C'AB = \frac{BC'}{AB} = \frac{a\sqrt{2}}{a}$$

$$\sphericalangle C'AB = 54.74^\circ \rightarrow \sphericalangle AOB = 180 - 2 \cdot 54.74^\circ = 70.53^\circ$$

$$\boxed{\sphericalangle AOB = 70.53^\circ}$$

$$70.53^\circ$$



$$AO = BO = \frac{a\sqrt{3}}{2}$$

$$S_{\Delta AOB} = \frac{AO \cdot BO \cdot \sin \sphericalangle AOB}{2}$$

$$S_{\Delta AOB} = \frac{\frac{a\sqrt{3}}{2} \cdot \frac{a\sqrt{3}}{2} \cdot \sin \sphericalangle 70.53^\circ}{2}$$

$$\boxed{S_{\Delta AOB} = 0.3536a^2}$$

$$S_{\Delta AOB} = 0.3536a^2 :$$

$$S_{\Delta AOB} = 4\sqrt{2}$$

$$0.3536a^2 = 4\sqrt{2}$$

$$a^2 = 16$$

$$\boxed{a = 4}$$

$$a = 4 :$$

$f(x) = \sin^2 x + 6$

$-f \leq x \leq f$

y

$f(0) = \sin^2 0 + 6 = 6 \rightarrow (0, 6)$

$(0, 6)$

$(-f, 6), (f, 6)$

$f'(x) = 2 \sin x \cos x$

$f'(x) = \sin 2x$

$0 = \sin 2x$

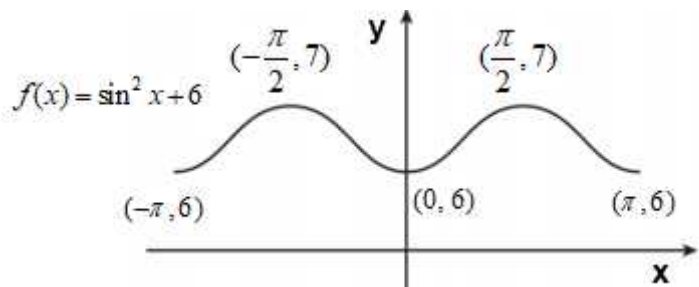
$2x = k\pi$

$x = \frac{k\pi}{2}$

$f(\frac{\pi}{2}) = f(-\frac{\pi}{2}) = \sin^2(\frac{\pi}{2}) + 6 = 7 \rightarrow (\frac{\pi}{2}, 7), (-\frac{\pi}{2}, 7)$

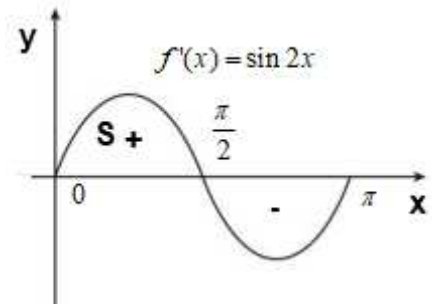
x	$-\pi$		$-\frac{\pi}{2}$		0		$\frac{\pi}{2}$		π
$f(x)$	6		7		6		7		6
$f'(x)$		$+$		$-$		$+$		$-$	
	Min	↗	Max	↘	Min	↗	Max	↘	Min

$(-\pi, 6), (-\frac{\pi}{2}, 7), (0, 6), (\frac{\pi}{2}, 7), (\pi, 6)$



• $0 \leq x \leq f$, $f'(x) = \sin 2x$, **(1)** .

• , ,
 $f'(f) = f'(-f) = 0 \rightarrow (-f, 0) , (f, 0)$:
(2) -)



• , **(2)**

$$S = \int_0^{\frac{f}{2}} (f'(x) - 0) dx$$

$$S = f(x) \Big|_0^{\frac{f}{2}}$$

$$s = f\left(\frac{f}{2}\right) - f(0)$$

$$S = 7 - 6$$

$$\boxed{S = 1}$$

• " 1 :

$f(x) = (x+2)e^{x+3}$

x

:

$x+2, x, e^{x+3} > 0$

x

$(-2, 0)$

$(x < -2)$

$x > -2$

$f(x)$

:

$f(x)$

$f'(x) = e^{x+3} + (x+2)e^{x+3}$

$f'(x) = e^{x+3}(1+x+2)$

$f'(x) = e^{x+3}(x+3)$

$x+3=0 \rightarrow (-3, -1)$

$(-3, -1)$

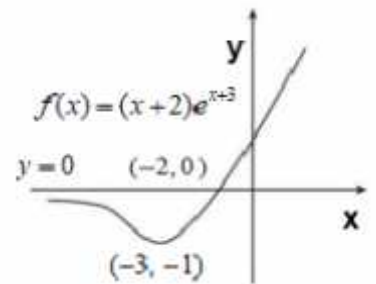
$(-4, -0.736)$

$(-2, 0)$

$(x \rightarrow -\infty, y=0)$

$(-3, -1)$

$f(x) = (x+2)e^{x+3}$



$f(x), a$

$g(x) = f(x) + a$

$x, y = 0.5$

$f(x)$

x

$y = -1$

$a = 1.5$

$1.5 - f(x)$

$g(x) = f(x) + a$

$a = 1.5$

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$$f(x) = 2\ln x + 2\ln(x^2) - 3$$

$$x^2 \neq 0 \rightarrow x \neq 0$$

$$x > 0$$

$$x > 0 :$$

$$\log_b(b^t) = t \cdot \log_b b$$

$$f(x) = 2\ln x + 2\ln(x^2) - 3$$

$$f(x) = 2\ln x + 4\ln x - 3$$

$$f(x) = 6\ln x - 3$$

$$x > 0$$

$$: y = 0$$

$$x -$$

$$6\ln x - 3 = 0$$

$$6\ln x = 3$$

$$6\ln x = 0.5$$

$$x = e^{0.5} = \sqrt{e}$$

$$(\sqrt{e}, 0)$$

$$(\sqrt{e}, 0) :$$

$$f(x) = 6\ln x - 3$$

$$f'(x) = \frac{6}{x}$$

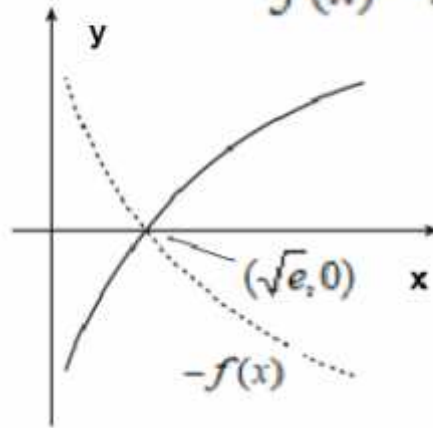
$$x > 0$$

$$x - , x > 0 - :$$

$$, f(10,000) = 52.26 \rightarrow +\infty , x \rightarrow +\infty$$

$$x = 0 - f(0.00001) = -86 \rightarrow -\infty , x \rightarrow 0^+$$

$$f(x) = 2\ln x + 2\ln(x^2) - 3$$



$y - , x -$

$, f(x) - -f(x) .$

$.(\sqrt{e}, 0)$